

## Patent Claims

1. An electronic circuit arrangement for generating a transmit frequency for a transceiver having the following features: a  
5 controllable oscillator (2) for generating an oscillator frequency ( $f_{osz}$ ), a divider (19) by a factor N and a mixer stage (32) with a subsequent band filter (33) are connected to one another in such a way that the oscillator frequency ( $f_{osz}$ ) and an oscillator frequency ( $f_{osz}/N$ ) which is divided  
10 by the factor N are fed to the mixer stage (32) as input signals.
2. The electronic circuit arrangement as claimed in the preceding claim 1, characterized in that, instead of the  
15 mixer stage (32) with subsequent band filter (33), a single-sideband mixer (20) which is embodied in particular as an "Image Reject Mixer" is provided.
3. Electronic circuit arrangement as claimed in any of the  
20 preceding claims 1 to 2, characterized in that a PLL circuit (1) is provided for stabilizing the oscillator frequency ( $f_{osz}$ ), to which PLL circuit (1) a reference frequency and either the oscillator frequency ( $f_{osz}$ ) or the output frequency of the single-sideband mixer (20) or of the band  
25 filter (33) are fed as input signals.
4. The electronic circuit arrangement as claimed in one of the preceding claims 1 to 3, characterized in that the factor N of the divider (19) is an integral multiple of the number 2  
30 and supplies two output signals which are phase-shifted by 90°.
5. The electronic circuit arrangement as claimed in one of the preceding claims 1 to 4, characterized

in that a control device (31) is provided which, at the time of the switching on of a transmit output stage (4) which is connected to the output of the mixer stage (32) with the subsequent band filter (33) or of the single-sideband mixer 5 (20), superimposes on an oscillator control signal a data signal in order to generate a frequency modulation.

6. The electronic circuit arrangement as claimed in the preceding claim 5, characterized in that the control device 10 (31) is an ASIC component.

7. The electronic circuit arrangement as claimed in one of the preceding claims 5 to 6, characterized in that the control device (31) activates two switches (32, 33) alternately, which disconnects the control input of the oscillator (2) at the time of the switching on of the transmit stage by the 15 PLL circuit (1) and feeds in a data signal for purposes of frequency modulation.

20 8. The electronic circuit arrangement as claimed in one of the preceding claims 1 to 7, characterized in that a superimposition receiver (36) is provided which obtains its superimposition frequency directly from the oscillator frequency ( $f_{osc}$ ), and in that a changeover device (38) is provided which in the case of transmission is fed the output 25 frequency to the mixer stage (32) with the subsequent band filter (33) or of the single-sideband mixer (20), and in the case of reception is fed the oscillator frequency to the PLL circuit (1).

30 9. The electronic circuit arrangement as claimed in one of the preceding claims 1 to 8, characterized in that an amplifier (4) is provided at the output

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of the mixer stage (32) with the subsequent band filter (33)  
or of the single-sideband mixer (20).

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10. The electronic circuit arrangement as claimed in one of the preceding claims 1 to 9, characterized in that the oscillator (2) is voltage-controlled.

5 11. The electronic circuit arrangement as claimed in one of the preceding claims 1 to 9, characterized in that the oscillator (2) is current-controlled.

10 12. The electronic circuit arrangement as claimed in one of the preceding claims 1 to 11, characterized in that a reference frequency (26) is supplied externally.

15 13. The electronic circuit arrangement as claimed in one of the preceding claims 1 to 12, characterized in that a modulator (40, 39), preferably a vector modulator (39), with which a modulator signal is made available at the output of the mixer stage (32) by supplying an IQ modulation baseband signal, is arranged between the divider (19) and the mixer stage (32) or of the single-sideband mixer (20).

20 14. The electronic circuit arrangement as claimed in the preceding claim 13, characterized in that the signal which is acquired from the divider (19) and is phase-shifted by  $0^\circ/90^\circ$  is included in the generation of the vector modulation of the modulator (39).

25 15. The electronic circuit arrangement as claimed in one of the preceding claims 1 to 2, characterized in that a modulation stage, preferably a vector modulation stage, which brings about modulation of the transmit signal, is arranged at the output of said electronic circuit.

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